No.	Division.	Length of boundaries in miles.	Number of Cairns erected.			Cost.
			Large.	Small.	Total.	
1	East Khándesh...	4	18	...	18	58
2	West Khándesh...	451	644	3,742	4,386	1,978
3	Násik	319	1,216	8,816	10,032	3,929
4	Ahmednagar	117	2,140	1	2,141	1,171
5	Poona	178	3,225	635	3,860	1,846
6	Sátára	528	492	5,740	6,232	1,583
7	Sholápur	133	23	1,501	1,524	517
	Total ...	1,730	7,758	20,435	28,193	11,082

29. The outer boundary demarcation of forest reservations in East Khándesh has been completed to a great extent by the Forest Settlement Officer, but as the boundary marks are too far apart to be visible one from the other, intermediate marks have still to be erected in many places to connect the existing ones, and this work will now be pushed on with vigour; during the year of this report only 18 new pillars were erected, but such of the old boundary marks as required to be repaired were put into order.

30. In the West Khándesh Division Rs. 1,978 were expended, mainly by the Forest Settlement Officer, whose surveyors are employed in building the forest boundary marks, and they erected 509 large and 3,557 small pillars at a cost of Rs. 1,632; while 135 special forest boundary marks of the 1st class, and 185 of the 2nd class, were newly erected; and 2,905 boundary marks which had been constructed in preceding years, and had become dilapidated, were re-constructed by the Divisional Forest Officer at a cost of Rs. 346.

31. In the Násik Division 1,968 new cairns were erected in the Peint Táluka at a cost of Rs. 88; and in other ranges 8,064 marks were put up at an expenditure of Rs. 2,688; 6,445 cairns were also repaired at Rs. 1,153.

(iv). SURVEYS.

32. The Forest Survey branch of the Government of India, working in the Central Circle, was in charge of Colonel Hutchinson, with Messrs. A. M. Lawson, S. F. Norman and C. A. Norman as his Assistants, throughout the year, and carried on its operations in the divisions of Poona and Sholápur only; and the following statements will show a comparison of the work performed and the expenditure incurred during the survey years ending 30th September 1892 and 30th September 1893, as directed in Government Resolution No. 4515, dated 3rd July 1891, in the Revenue Department.

Statement showing the amount and cost of work done by No. 17 Party (Bombay Forests), in the Central Circle, during the Survey year ending 30th September 1892.

District.	Táluka.	Triangulation.		Traversing.		Topography.				Total.	Remarks.
						8″		10″			
		Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.		
		Sq.m.	Rs.	Sq.m.	Rs.	Sq.m.	Rs.	Sq.m.	Rs.	Rs.	
Poona ...	Junnar ...	103	484	(a)23	497	...	...	...	...	981	(a) 180 linear miles all in advance.
	Haveli	75	1,747	...	...	50·75	6,730	...	...	8,477	
	Indápur ...	...	...	...	...	...	...	15·39	2,884	2,884	
Ahmednagar ...	Akola	220	411	...	...	...	...	...	...	411	
Sholápur ...	Karmála and Mádha ...	...	...	...	...	...	...	(b)24·43	4,578	4,578	(b)Karmála (13·74) and Mádh (10·69).
		458	2,642	23	497	50·75	6,730	39·82	7,462	17,331	
Cost per square mile ...		...	5 12 4	...	21 9 8	...	132 9 9	....	187 6 4	...	

Statement showing the amount and cost of work done by No. 17 Party (Bombay Forests), in the Central Circle, during survey year ending 30th September 1893.

District.	4" Triangulation.		8" Topography.		16" Topography.		Total.	Remarks.
	Area, Square miles.	Cost.	Area, Square miles.	Cost.	Area, Square miles.	Cost.		
		Rs.		Rs.		Rs.	Rs.	
Poona	230	3,318	...	...	...	...	3,318	Junnar 80 and Haveli 150.
„	...	...	109	15,157	...	...	15,157	Junnar 96·75 and Haveli 12·25.
„	...	...	...	...	15·50	4,080	4,080	Indápur 9, Khed 3·35. Bhimthadi 2·97 and Mával 0·18.
Sholápur... ...	...	...	...	...	6·0			Karmála.
Total ...	230	3,318	109	15,157	21·50	4,080	22,555	
Cost rate ...	...	14 6 10	...	139 0 11	...	189 12 3	...	

33. The cost of the topography on both the 8″ and the 16″ scales are slightly greater this year than last, but the difference is so small that the Superintendent has given no explanation on the point. The 16-inch work of the riparian bábul reserves was first commenced in the Poona and Sholápur divisions. 8 sub-surveyors with their squads were equipped and despatched from Poona about the 15th of October; 3 of these went to the neighbourhood of Indápur on the Poona and Sholápur boundary, and Mr. A. M. Lawson was told off to follow and examine their work on the close of his recess duties. The remaining 5 commenced work on the Bhima river in the Poona District, and were afterwards visited and superintended by Colonel Hutchinson and Mr. C. Norman. The work on the Bhima, however, proved very scattered and not extensive as regards the area, so the ground was soon completed, and this establishment had to be moved on to the Nira river, south of Poona.

34. Recess at Poona was closed at the end of October, and the rest of the plane-tablers then moved out under Mr. S. F. Norman to take up the 8″ detail survey in the Junnar Táluka, whilst Colonel Hutchinson and Messrs. Lawson and C. Norman proceeded to superintend the 16″ survey work, which was brought to a close at the end of December.

35. The 8″ work in the Junnar Táluka closed at the end of February 1893, and the establishment then moved into the Thána District.

36. The area triangulated upon in the Haveli Táluka of the Poona District forms the head of the Mutha river valley; it is hilly and has a good deal of verdure on it, but the tops of the spurs and hills are mostly clear of forest, so that it presents no exceptionable difficulties to triangulation. Its climate is perfect, being close to the edge of the Western Ghâts, and it is accessible as being close to Poona and the Railway line. The ground in the Junnar Táluka is bare of timber, but is rugged and mountainous; it is easy of triangulation and readily admits of minute work being done.

37. The ground of the bábul reserves surveyed on the 16″ scale on the Bhima river in the neighbourhood of Indápur, falling into the Poona and Sholápur districts, was flat and most of it poorly wooded, though some of the blocks contained closely grown and valuable bábul timber. The blocks were not very much scattered, and some of them were large, while the details on the ground were few, so that a fair area was surveyed pretty rapidly.

38. The work, on the 16″ scale, of the bábul reserves on the Bhima and Pauna rivers in the Khed and Mával tálukas of the Poona District, was done under Colonel Hutchinson and Mr. C. Norman. It consisted mainly of fringes of bábul growth on the banks of the rivers, and much scattered, so that the sub-surveyors lost much time in moving from one bit of work to another. The

character of the ground was much of it hilly and raviney, whilst the attenuated and contorted shapes of the blocks involved a good deal of survey, but enclosed very little actual forest area.

39. The 16″ work on the Nira river in the Bhimthadi Táluka of the Poona District much resembles that on the Bhima and Pauna rivers, and there is comparatively little area to show for a considerable amount of survey and labour undergone.

40. The ground treated under the topographical survey on the scale of 8″ to the mile is most of it mountainous and rugged in the extreme, and also raviney; but being sparsely covered with timber, there was no difficulty in seeing the features of the ground, some of them on a very vast scale, and of most extraordinary shapes, and admitting of survey in great minute detail: it has been excellently rendered, and the maps are perfect pictures of the ground.

41. The total expenditure on forest surveys during the forest year ending 30th June 1893, is Rs. 31,082. The Superintendent reports that the year's work may be regarded as very satisfactory; and the Conservator has much pleasure in testifying to the zeal and energy with which Colonel Hutchinson and his Assistants have performed their duties during the year of this report.

CHAPTER II.

MANAGEMENT OF STATE FORESTS.

I.—REGULATION OF MANAGEMENT.

(*a*). Working Plans.

42. The Working Plans Officer with his staff, forming the Working Plans Division of the old Northern Circle, having been attached to the new Northern Circle when the two new circles were made, and no Working Plans Officer having been appointed to, and no Working Plans Division having been created for, the Central Circle, there have been no special arrangements for preparing working plans of the forests in the Deccan during the year of this report; but the several Divisional Forest Officers have, in addition to their other duties, undertaken the differentiation of their forest areas into forest blocks with the sub-division of the latter into compartments, and considerable progress has been made in this direction during the year, as will be seen.

43. Mr. Madan, Divisional Forest Officer, East Khándesh, has divided the Trans-Purna bábul reserves into two blocks, and each block into 40 compartments, for the exploitation of bábul (Acacia arabica) and subsequent restocking the worked area by ploughing the ground and sowing seeds of Acacia arabica mixed with nim (Melia azadirachta), blackwood (Dalbergia latifolia) and such other valuable species as are likely to thrive upon the soil. The forest areas in the Páchora and Jámner ranges have been provisionally differentiated into blocks with a view to their sub-division into compartments.

44. In the Násik Division the forests of the Násik, Igatpuri, Sinnar, Niphád and Nándgaon ranges have been parcelled out into forest blocks, and 34 compartments were laid out on the ground in 34 of the blocks, one in each, and some of these compartments have been converted into coupes, and have undergone exploitation. Maps of the blocks in the Nándgaon Range, with few exceptions, have been prepared by the Forest Survey; and those for Násik, Igatpuri, Sinnar, Málegaon and Dindori are in the course of preparation from the Revenue Survey maps; while the maps of the Niphád Range have been completed.

45. In the Ahmednagar Division the teak (Tectona grandis) forests of the Akola and Sangamner ranges were worked, as usual, in accordance with the scheme prepared by Mr. Hight several years ago; and a working plan, based on area, providing for a rotation of 40 years has been applied to 37 bábul reserves situated on the banks of large rivers and streams. Compartments have been made into coupes, and the timber to be removed has been felled and taken out, and some of the exploited coupes have been sown up and enclosed after the ground had been prepared for the reception of seeds.